Appl. No. 10/827,118
Amdt. dated October 14, 2005
Reply to Office action of July 14, 2005

Amendments to the Specification:

Please amend paragraph **[0016]** as shown below.

[0016] Fig. 1 depicts a lithographic system 10 that includes a pair of spaced-apart bridge supports 12 having a bridge 14 and a stage support 16 extending therebetween. Bridge 14 and stage support 16 are spaced-apart. Coupled to bridge 14 is an imprint head 18, which extends from bridge 14 toward stage support 16 and provides movement along the Z-axis. Disposed upon stage support 16 to face imprint head 18 is a motion stage 20. Motion stage 20 is configured to move with respect to stage support 16 along X- and Y-axes. It should be understood that imprint head 18 may provide movement along the X- and Y-axes, as well as the Z-axis, and motion stage 20 may provide movement in the Z-axis, as well as the X- and Y-axes. An exemplary motion stage device is disclosed United States patent 6,900,881 ~~application number 10/194,414, filed July 11, 2002,~~ entitled "Step and Repeat Imprint Lithography Systems," assigned to the assignee of the present invention, and which is incorporated by reference herein in its entirety. A radiation source 22 is coupled to lithographic system 10 to impinge actinic radiation upon motion stage 20. As shown, radiation source 22 is coupled to bridge 14 and includes a power generator 23 connected to radiation source 22. An exemplary lithographic system is available under the trade name IMPRIO 100™ from Molecular Imprints, Inc., having a place of business at 1807-C Braker Lane, Suite 100, Austin, Texas 78758. The system description for the IMPRIO 100™ is available at www.molecularimprints.com and is incorporated herein by reference.

Please amend paragraph **[0017]** as shown below.

[0017] Fig. 2 shows a master template 24 spaced-apart from a backing plate 26 with a distance "d" defined therebetween, with backing plate 26 being substantially parallel to master template 24. Master template 24 comprises a mold 28 disposed on a surface 30 of a substrate 32 with surface 30 having a substantially planar surface and mold 28 being substantially parallel to substrate 32. Substrate 32 is located on a wafer chuck 34 with an exemplary chuck disclosed in United States patent application publication 2004/0090611 ~~number 10/293,224, filed November 13, 2003,~~ entitled "A Chucking System for Modulating Shapes of Substrates," which is assigned to the assignee of the present invention and is incorporated by reference in its entirety herein.

Please amend paragraph **[0019]** as shown below.

[0019] Mold 28 may be formed from any suitable material including materials that are substantially opaque to actinic radiation. Additionally, mold 28 may be formed from materials including, but not limited to, silicon, gallium arsenide, quartz, fused-silica, sapphire, organic polymers, siloxane polymers, borosilicate glass, fluorocarbon polymers or a combination thereof. In an exemplary case, mold 28 is formed from silicon. Mold 28 may be treated with a release layer 36. Release layer 36 may be formed from materials including, but not limited to, perfluoro silane, diamond-like carbon (DLC), diamond-like nano-composite or a surfactant. An example of a surfactant is disclosed in United States patent application publication 2004/0256764 ~~number 10/463,396, filed June 17, 2003,~~ entitled "Method to Reduce Adhesions Between a Conformable Region and

Pattern of a Mold," which is assigned to the assignee of the present invention and is incorporated by reference in its entirety herein. Release layer 36 may be deposited upon mold 28 before or after mold 28 is coupled to substrate 30 to form master template 24 and may be applied using any known method, with such methods including, but not limited to, chemical vapor deposition, physical vapor deposition, atomic layer deposition or various other techniques, such as dip coating and spin coating and the like.

Please amend paragraph **[0022]** as shown below.

[0022] By employing mold 28 having deep features of protrusions 40 and recessions 42, mold 28 may be used to form deep featured structures therefrom, with such structures having a pattern complimentary to relief pattern 38. The structure formed from mold 28 may then be utilized as a template in subsequent imprint lithography processes, and more specifically, in subsequent patterning of substrates. An exemplary imprint lithography method and system for patterning of substrates is described in United States patent 6,908,861 ~~application 10/194,410 filed July 2002~~ entitled "Method and System for Imprint Lithography using an Electric Field," which is assigned to the assignee of the present invention and is incorporated by reference in its entirety herein.

Please amend paragraph **[0034]** as shown below.

[0034] In a further embodiment, a low surface energy layer 56 may be disposed upon imprinting layer 44. Low surface energy layer 56 has a desired surface energy associated therewith, wherein the desired surface energy minimizes adhesion between

daughter template 54 and any substrates in contact therewith. Low surface energy layer 56 may be formed from materials including, but not limited to, a perfluoro silane, diamond-like carbon (DLC), diamond-like nano-composite, or a surfactant containing material. An exemplary low surface energy layer is disclosed in United States patent application publication 2005/0084804 ~~number 10/687,519, filed October 16, 2003,~~ entitled "Low Surface Energy Templates," which is assigned to the assignee of the present invention and is incorporated by reference in its entirety herein.

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